2001

Federal Highway Administration
Report to the American People

U.S. Department of Transportation
Federal Highway Administration

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Message from the Administrator

I became Federal Highway Administrator in October 2001, but as Director of the Arizona Department of Transportation for the past four years, I am well aware of the agency's broad range of programs serving the American people.

This *2001 Report to the American People* will help you better understand what the Federal Highway Administration (FHWA) does and how the agency works with its partners to build, operate, and maintain the best transportation system in the world.

The Report presents FHWA's crucial role in the nation's surface transportation network: from super-smooth pavements to sophisticated software; from the completion of arteries that carry millions each week in our cities to road building in rural areas across America; from helping the Golden Gate Bridge resist earthquake damage to protecting bridge supports from severe erosion at the Indian River Inlet Bridge in Delaware. FHWA is in each of these locations and hundreds more.

Transportation affects every person in our country. A safe, accessible, affordable, and reliable transportation system is vital to every American, whether it be a child living within tribal nation boundaries who needs transportation to school, a person with disabilities who needs access to training, parents who want to spend less time commuting, or a senior citizen seeking mobility options.

FHWA works for all these people, but it does not work alone. Our transportation system is the product of partnerships with state, local and tribal governments, other federal agencies, the transportation industry, academia, and the public.

We are always open to suggestions on how to do better. Starting on page 36, we have included a list of offices that you can contact to offer suggestions or get information about FHWA and highway programs. You can also contact us on the Web at *www.fhwa.dot.gov* or call the FHWA division office nearest you.

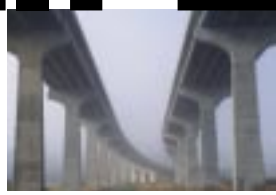
We at the Federal Highway Administration are proud to serve America by supporting the best in surface transportation. The many projects profiled in this 2001 Report represent a fraction of our work, and we hope they convey the commitment and pride that FHWA and its many partners bring to their mission.

Federal Highway Administrator
November 2001

AMERICA'S LIFE

Today's federal-aid highway and transit programs provide flexibility to state and local officials to fund highways, transit, or alternatives such as bicycling or walking paths.

Every hour of every day, the work of the Federal Highway Administration (FHWA) and its transportation partners touches the lives of nearly every citizen of the United States. Everyone who commutes to an office, rides a bus, or hauls freight. Everyone who embarks on a classic American road trip. All police officers, firefighters, medical personnel, and members of the military. And the highways involve even more. Virtually every item in your home, place of employment, or school spent time in a truck and traveled into your life via one of our nation's highways. The fact is that our highway transportation system serves to unify America and sustain the American way of life. The challenge of the FHWA, one that we embrace, is to improve this vital transportation system to ensure that safe, reliable, and convenient access is provided for all.



State and local officials "flexed" $1.25 billion in highway funds to transit projects in fiscal year 2001. ✣ Lady Bird Johnson, wife of President Lyndon

Highways strengthen each of our communities and our nation's economy as a whole.

This *2001 Report to the American People* explains how FHWA has worked with others over the past year to plan, build, preserve, and operate our nation's transportation system. We've contributed to new construction and reconstruction projects, the preservation of federal and Indian lands, the building of quiet pedestrian bridges, improvements to bridge superstructures, and analyses of safety barriers. In each of our activities, we at FHWA work with our partners to preserve and enhance our nation's transportation system and help to grow a stronger America.

Delivering for the American People

The FHWA plays an important role in the United States Department of Transportation (DOT). We are more than 2,800 professionals in all 50 states plus Washington, D.C., and Puerto Rico. Our Washington, D.C., headquarters and four resource centers provide national leadership and expert support to our 52 division and four metropolitan offices throughout the United States. We collaborate with our partners to ensure that U.S. highways remain the backbone of an effective intermodal transportation network. Our partners include the state and local governments that own and operate the nation's roads, including the Interstate System. Through the Federal-aid Highway program, FHWA makes funds available each year to state transportation departments. These departments, in turn, work with local officials to plan and select important transportation system improvement projects. Our three Federal Lands Highway Division offices administer road programs for federally owned lands and defense installations, and provide federal agencies with transportation services.

Johnson, inspired the Highway Beautification Act of 1965. ✣ She also has been a leader in encouraging the planting of wildflowers along the

A New Focus in the Post-Interstate Era

Throughout our history, FHWA has met the challenge that comes with changing times. Beginning in the 1950s, we concentrated on working with the states to build the 42,800-mile Interstate Highway System in 49 states, plus additional roads in Alaska, the District of Columbia, and Puerto Rico. With the system complete, the focus of FHWA shifted dramatically with the passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), which launched the post-interstate era for surface transportation programs.

ISTEA created new areas of focus for U.S. DOT and FHWA. The Act authorized a National Highway System—160,000 miles—to include the Interstate System and other important roads and connections to intermodal facilities. And it increased support to programs such as Intelligent Transportation Systems (ITS) in recognition of the need to apply technology to improve operations and make the current highway system more efficient and safer. ISTEA also improved access to national parks, national forests, and other federal lands; supported national defense mobility and emergency preparedness; enhanced the fiscal integrity of transportation decisionmaking; and, for the first time, introduced a requirement for a

statewide transportation planning process, offering opportunities for public involvement. ISTEA also reorganized the federal-aid highway and transit programs to give state and local officials greater flexibility in using federal funds—for highways, transit, or alternatives such as bicycling and walking paths—to best meet each area's unique transportation infrastructure needs.

In 1998, the Transportation Equity Act for the 21st Century (TEA-21) reauthorized the ISTEA programs. While retaining ISTEA's post-interstate program structure, TEA-21 authorized higher funding levels for the Federal-aid Highway and Federal Lands Highway programs. In addition, TEA-21 formalized and authorized the Research and Technology Program, including Surface Transportation Research, University Transportation Centers, and enhanced technology deployment and training.

Our Unique Roles

As a steward for taxpayer dollars, FHWA fulfills six unique roles highlighted in this *2001 Report to the American People*:

- We fund and support projects to improve the design, operation, and maintenance of roads and bridges throughout the country. We help our partners better manage their transportation assets. We fund an array of national programs such as improving transportation safety, encouraging mass transit options, reducing congestion, preserving scenic and historic byways, enhancing and protecting the environment, constructing facilities for bicyclists and pedestrians, and more.
- We make federal lands and facilities more accessible, support national security, and provide emergency relief funds to restore highways and bridges damaged by natural disasters or catastrophic failures.
- We promote improved highway planning, design, construction, operation, and maintenance by working with our partners to develop standards and deploy new strategies and advanced technologies.
- We exchange vital information with the public through a variety of programs, forums, and media events.
- We research, develop, and transfer technologies to operate today's roads and improve tomorrow's. Such developments include state-of-the-art practices and technologies to help state and local agencies get the most out of the existing transportation system.
- We train and develop the professional transportation community.

nation's highways. ✣ Today, all 50 states plant wildflowers along the National Highway System. ✣ On a typical day, Americans make 1 billion shor

Our View of Success

Each day, we at FHWA aggressively pursue our vision—to create the best transportation system in the world, and our mission—to continually improve the quality of our nation's highway system and its intermodal connections. We pursue this vision and mission by focusing on six strategic goals:

Safety

Continually improve highway safety.

Mobility

Continually improve the public's access to activities, goods, and services by preserving, improving, and expanding the highway transportation system—and enhancing its operations, efficiency, and intermodal connections.

Productivity

Continually improve the economic efficiency of the nation's transportation system to enhance America's position in the global economy.

Human and Natural Environment

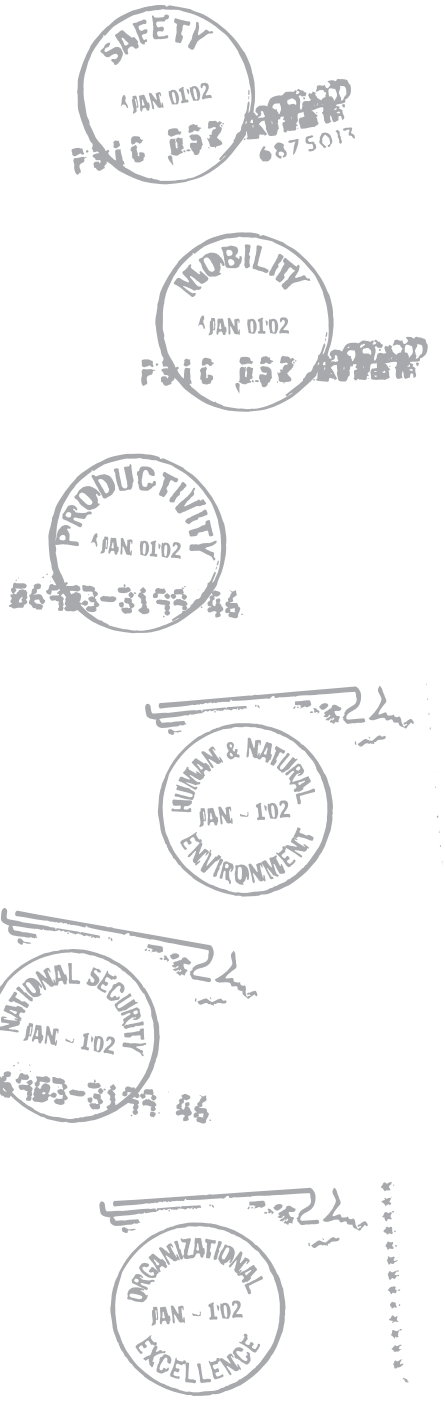
Protect and enhance the natural environment and communities affected by highway transportation.

National Security

Improve the nation's national defense mobility.

Organizational Excellence

Advance FHWA's ability to manage for results and innovation.

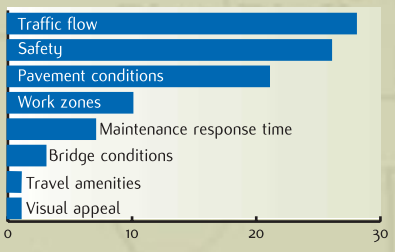


Moving Ahead

In 2000, FHWA surveyed overall public satisfaction with the nation's highway transportation system—the satisfaction not only of drivers, but of all travelers. On March 20, 2001, FHWA released the results of these surveys in Moving Ahead: The American Public Speaks on Roadways and Transportation in Communities. *The results reflect overall satisfaction with roads and bridges—in part, due to the increasing federal and state highway funds invested in our highway system since the early 1980s—but dissatisfaction with traffic congestion. As illustrated below, the survey also identified areas that the traveling public would like to see improved, including traffic safety and congestion, pavement conditions, work zones, and maintenance response times.*

For FHWA, these are the bedrock issues, the issues we work on every day, the points where our work is seen and experienced by American motorists.

Most Important Highway Improvements
(percent of survey respondents)



distance trips, and travel about 9 billion miles. ✣ Travel by private vehicle accounts for 86 percent of all travel and 91 percent of the distance

PARTNERSHIPS

Supporting Transportation System Improvements

At FHWA, we help our partners enhance the U.S. transportation system, supporting our country's economic vitality, quality of life, and environment. This is the heart of the FHWA mission. To meet our national needs, we make funds available for projects chosen by state departments of transportation (DOTs), metropolitan planning organizations, and other partners. We focus on the contracting process and timelines and ensure compliance with federal requirements. The projects profiled in this section illustrate the range of FHWA's recent work with a variety of public and private-sector partners.

Bypass designs are currently being evaluated to alleviate traffic bottlenecks on the road spanning the Hoover Dam.
Photo courtesy of: Bureau of Reclamation

traveled. ✣ The average driving time per day for all drivers is 1 hour and 13 minutes. ✣ Between the ages of 20 and 54, men drive an average of

In and Out in 72 Hours

Faced with the prospect of lengthy work zone projects to reconstruct three intersections on U.S. 395 in Kennewick, the Washington State Department of Transportation (WSDOT) took a bold step. It decided to shut down each intersection completely for one weekend, enabling work to be completed on an aggressive timeline built around hours instead of days. An intensive information campaign for motorists and the use of quick-setting Portland cement concrete were instrumental in the ahead-of-schedule completion of each project. An open-house co-hosted by WSDOT, the American Concrete Pavement Association, and FHWA drew attendees from surrounding states and Canada who wanted to learn more about this innovative way to complete major projects with minimal impacts on mobility and safety. A similar weekend closure of New Circle Road for bridge repairs in Lexington, Kentucky, was also welcomed as the technique of the future by local residents and press.

"Going into this, the community was skeptical. But when all was said and done, they were very happy that they were only affected one weekend."

Tom Nelson
American Concrete Pavement Association
June 19, 2001

An Ecological Treasure

The Tweeds Mill Bridge over White Clay Creek, Delaware, built of hand-cut stone more than 150 years ago, fell into disrepair and out of service early in the 20th century. Given the significance of White Clay Creek as "a national ecological treasure," the Delaware Department of Natural Resources and Environmental Control and the Delaware Department of Transportation constructed a new pedestrian bridge on the surviving stone bridge abutments and wing walls. The state combined federal funds (Transportation Enhancement and Recreational Trail) with state funds to build the bridge. The new 90-foot, self-weathering steel span was dedicated on June 1, 2001, and enhances the safety and pleasure of visitors to White Clay Creek State Park.

Expedited Project Delivery

The intersection of State Highways 4 and 17 in Paramus, New Jersey, was built in the early 1930s and currently accommodates more than 280,000 vehicles per day. The state DOT expected reconstruction of this critical and congested intersection, located near three shopping malls, to take four years. Innovative contracting methods promoted by the FHWA, including a complex contractor cash-incentive program, shortened the federal-aid project time by 15 months. Construction costs amounted to approximately $57 million, with an additional $40 million in right-of-way (ROW) funds. The state of New Jersey was nominated for a National Partnership of Highway Quality Achievement Award for its work on the State Highways 4 and 17 project.

,500 miles per year and women drive an average of 11,700 miles. ✝ On November 11, 1926, the American Association of State Highway Officials

Design-Build Successes

The design-build concept allows contractors maximum flexibility for innovation in selecting design, materials, and construction methods. With design-build procurement, the contracting agency identifies the end result and establishes the design criteria. Prospective bidders then develop design proposals that optimize their construction abilities. From the contracting agency's perspective, the potential for time savings is a significant benefit. Since the design and construction are performed through one procurement, construction can begin before all design details are finalized. The following describes two current major projects featuring design-build construction.

An Economic Boost

Two aging bridges, the narrow Grace Bridge and the three-lane Pearman Bridge, span the Cooper River and connect Charleston and Mt. Pleasant, South Carolina. The bridges have been unable to meet steadily increasing traffic demands, and their low heights have limited shipping activities in Cooper River. As a result, mobility, safety, and productivity have been affected. In 2001 the South Carolina Department of Transportation and officials of Charleston, Mt. Pleasant, and FHWA agreed to use design-build contracting to erect a 2.5-mile cable-stayed bridge that will provide a link to vital federal defense facilities, major employment centers in North Charleston, and residential and recreational areas east of Cooper River. It will also enhance national and international shipping

accessibility to the Port of Charleston and ensure the continued economic development of the region. With its 1,546-foot main channel span, the bridge is one of the longest cable-stayed structures under construction in the world.

An Olympic Undertaking

The I-15 reconstruction in Utah involved more than 142 bridges, 18 miles of interstate, eight interchanges with urban crossroads, and three major junctions with other interstates, including I-80 and I-215. All work had to be completed before the 2002 Winter Olympic Games. FHWA and the Utah Department of Transportation's I-15 Team used design-build contracting to complete the project on time and on budget. The agencies also developed a public relations initiative to offer the latest traffic information to the traveling public via: a website with real-time photos, toll-free telephone numbers, faxes to businesses, advertising, and public meetings. The PR campaign helped to achieve widespread public approval of the project despite the significant disruption to travel in the Salt Lake Valley. Dedicated on May 14, 2001, the new I-15 will help meet the crush of Olympics traffic and serve motorists in Utah for years to come.

The Big "I"

The I-25/I-40 interchange in downtown Albuquerque, New Mexico, was originally designed for daily volumes of 40,000 vehicles. In 2002 it will handle 400,000 vehicles a day. Innovative designs were submitted to meet the New Mexico State Highway and Transportation Department's (NMSHTD) aggressive 24-month construction schedule. If met, this schedule will establish a national record for most rapid completion of an urban freeway interchange of this size. FHWA committed an on-site bridge engineer to work with NMSHTD for the duration of the project to accelerate construction changes and work order adjustments. This unusual measure has proven to be a significant factor in moving the Big "I" project ahead of schedule, shortening the period of inconvenience for city travelers.

Big "I", Albuquerque, New Mexico

adopted the plan for numbering U.S. highways, including U.S 1, U.S. 40, U.S. 66, and dozens of others. ‡ In 1957, that plan was modified for numb

Springfield Interchange, Springfield, Virginia

Life in the Mixing Bowl

The Springfield Interchange Project in northern Virginia is an eight-year, seven-phase construction project in the Washington, D.C., metropolitan area. One of the largest reconstruction projects in the nation, it began in 1999. Known for years as the Mixing Bowl, this interchange blends I-95 through-traffic with local traffic on I-495, I-395, and VA 644. The question was how to keep 400,000 vehicles a day moving through the interchange area as construction progresses. Working with the FHWA, the Virginia Department of Transportation (VDOT) created an extensive congestion management plan, featuring no lane closures during rush hours, subsidized train and bus fares, and additional park-and-ride lots at shopping mall transit pick-up points. As a result, traffic is running smoother now than before construction began.

The Wildlife Highway

Along a two-mile stretch of U.S. 441 in Florida's Paynes Prairie State Preserve, frogs, snakes, alligators, and 75 other wildlife species were falling victim to motor vehicles and posing a serious threat to traveler safety. To solve this problem, a group composed of state transportation and natural resource agencies, environmental groups, and the University of Florida came up with an innovative strategy: construct concrete walls to contain area wildlife. The three-and-a-half-foot walls feature a six-inch lip at the top, similar to walls in zoo serpentariums, that channel animals along the roadway and into one of eight culverts beneath U.S. 441. The Florida Department of Transportation, working with the FHWA, completed the project in one year, enhancing safety on U.S. 441. The design has since been dubbed an ecopassage.

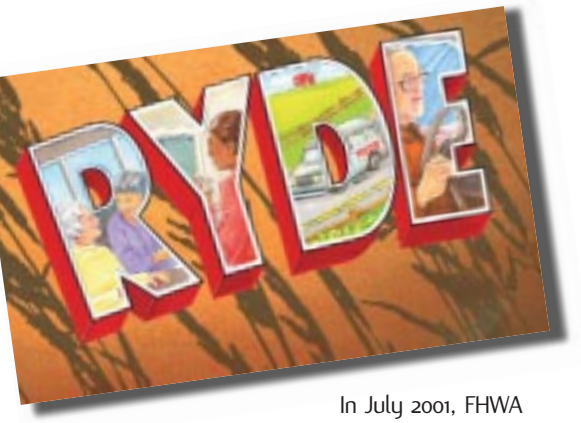
Environmental Streamlining

To meet the mandates of the Transportation Equity Act for the 21st Century and the National Environmental Protection Act (NEPA), FHWA is working in partnership with federal agencies and the states to make good, sound project decisions faster. Environmental streamlining—primarily shortening the number of months to complete environmental studies—is a priority throughout FHWA. For example, on the U.S. 119 improvement project in Indiana County, the Pennsylvania Department of Transportation (PennDOT) completed and FHWA approved the environmental impact statement in only 22 months instead of the average 3 years for similar projects. Combining early agency coordination and the creative use of technology, PennDOT engaged the public and accomplished better environmental results in less time. Features included use of CD-ROM technology to review permits and make decisions, a revised NEPA coordination process, and development of regional environmental streamlining approaches. FHWA recognized the PennDOT project team with an Environmental Excellence Award.

ing the Interstate System. ✢ Even-numbered Interstates with one or two digits are always east-west routes. ✢ Odd-numbered Interstates with

Rural Public Transit and More

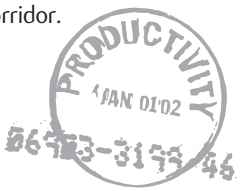
Reach Your Destination Easily (RYDE) began operation in central Nebraska in January 2000 with two buses and a van, transporting elderly persons and other special needs passengers to such destinations as medical facilities and shopping areas. That first month, the system carried 1,180 passengers a total of 5,471 miles. Less than one year later, monthly boardings increased to 4,055 passengers traveling 10,797 miles.



In July 2001, FHWA provided funding for a computerized dispatch to cover the large distances in the service area. RYDE performs a vital service by transporting medical patients, who comprise 20 to 30 percent of daily riders. Thirty percent of riders are wheelchair users. Partners for RYDE include the Buffalo County Community Health Partners, Mid-Nebraska Community Action, Nebraska State Department of Roads, Buffalo County, and the Federal Transit Administration.

More Freight, Less Delay

FHWA works closely with states, localities, and the private sector to alleviate congestion and improve the efficiency of freight transportation. In 1996, the U.S. DOT provided $400 million in loans for work on the Alameda Corridor in California, one of several high-priority transportation corridors identified in TEA-21. The project will improve railroad and highway access to the Ports of Los Angeles and Long Beach, two of the busiest ports in the United States. Along the 20-mile corridor, all freight rail operations will be consolidated into one high-capacity route and 200 rail-highway-grade crossings will be eliminated, a move that will significantly increase safety. These changes will save an estimated 15,000 hours of delay per day for vehicles at railroad crossings. Alameda Street, which runs from downtown Los Angeles to the ports, also will be improved to provide better access to highway ramps. The $2.4 billion Alameda Corridor project will create economic benefits that extend well beyond Southern California to other parts of the nation by helping to maintain U.S. competitiveness in international trade. Currently, the project is on schedule for expected completion in April 2002. Loan paybacks are guaranteed by charging rail lines a fee of $30 per container to use the Corridor.



"The groundbreaking approach to safety and environmental sensitivity of the U.S. 93 project marks a new era in Montana highway construction."

Judy Martz
Governor of Montana
June 8, 2001

Preserving the Spirit of Place

The widening of a 56-mile portion of U.S. 93 in Montana posed a special challenge to the Montana Department of Transportation (MDT). This stretch bisects the reservation of the Confederated Salish and Kootenai Tribes (CSKT) of the Flathead Native American Nation—two groups who felt strongly that any reconstruction project to improve safety and operations should show respect to their homeland and allow the highway traveler to enjoy the beauty of the country. In December 2000, the FHWA, the MDT, and the CSKT agreed to create a context-sensitive design that includes animal crossings and a focus on cultural and historic preservation within a concept termed Spirit of Place. This sensitivity has raised the bar for future partnerships within communities; the design will be adapted to improve safety and mobility within the state and region.

one or two digits are always north-south routes. ✣ If you feel you are going in circles on an Interstate, check its number. ✣ It will have three digi

The Sparkling Necklace

In July 2001, the FHWA approved the Record of Decision that concluded the environmental review for replacing the earthquake-damaged east span of the historic San Francisco-Oakland Bay Bridge, which opened in 1936. A few days later, the California Department of Transportation advertised the first of four construction projects in the area. FHWA worked closely with federal, state, and local officials to overcome many challenges before selecting the best replacement alternative, a unique design that not only complements the west span and the nearby Golden Gate Bridge but is constructed using the latest technology for resisting future earthquakes. The design for the new east span has been called one more diamond in the sparkling necklace of bridges that ring the Bay.

Building a Smarter Roadway

Although a narrow two-lane roadway, U.S. 15 serves as an important and heavily traveled corridor between Maryland and Leesburg, Virginia. This road has recently experienced an increased number of traffic crashes involving injuries and fatalities. While it is not involved in funding the reconstruction project, FHWA participates in a task force consisting of citizens, elected officials, local agencies, VDOT, and the Federal Motor Carrier Safety Administration, which has identified many low-cost, short-term improvements to increase safety. The improvements include lowering the speed limit, installing flashing yellow beacons to alert drivers to the lower limit, new traffic signals, center line rumble strips, and widening shoulders and edge lines. The results have been rewarding. Average speeds decreased (from 60 mph to 45 mph) as have serious injuries and fatalities. FHWA continues to participate in the task force, which meets regularly to see if other adjustments are needed. An FHWA participant says this project is one of the best examples he has ever seen of small improvements having big safety impacts.

The Mega-Projects Team

The Central Artery/Tunnel Project (CA/T), in Boston, Massachusetts, is one of the most spectacular engineering challenges in the history of the Interstate System. Known as the Big Dig, the CA/T Project includes building a tunnel to replace the 1950s era elevated I-93 freeway while the freeway remains in operation; providing a third harbor tunnel that will extend I-90 to improve access to Logan International Airport; and creating a signature I-93 cable-stayed bridge across the Charles River. Controversy has added to the challenge. Project management and cost increases have made the Big Dig, at more than $14 billion, the most expensive interstate project ever. Experience on the CA/T and other projects prompted DOT to establish a task force on oversight of large transportation infrastructure projects. As a member of the task force, FHWA is implementing the recommendations on all large and complex (mega) federal-aid projects. Although state transportation departments will retain primary responsibility for managing mega-projects (projects over $1 billion), FHWA will ensure improved planning to meet the TEA-21 requirement of annual approval of a financial plan for all such projects. Though controversial, the CA/T project has been responsible for innovative design, construction, and other technologies that advance highway, bridge, and tunnel technology.

, as three-digit Interstates beginning with an even number are often loops around a city, but always connect with the main Interstate (carrying

FEDERAL LANDS

Photo: National Scenic Byways Program

Ensuring Access to Federal and Indian Lands

Through the Federal Lands Highway Program, FHWA provides funding as well as design and construction expertise to build and improve more than 90,000 miles of public roads, giving access to and within federal and Indian lands. The program serves recreational travel and tourism needs, protects and enhances natural resources, improves safety, encourages economic development in rural areas, and supports transportation access for Native Americans. In cooperation with agencies such as the National Park Service, the Bureau of Indian Affairs, the Fish and Wildlife Service, and the Forest Service, we plan, locate, and design highway projects on federal and Indian lands. We also award construction contracts and provide full-time project oversight.

the last two digits) on both ends. ‡ Three-digit Interstates beginning with an odd number are spurs connecting only on one end. ‡ The longest In

Yosemite's Natural Wonder

The 70-year-old El Portal Road winds through the Merced River Canyon in Yosemite National Park for 7.5 miles. Severe flooding in January 1997 closed the roadway for several months until emergency repairs could be completed. At the request of the National Park Service, FHWA contracted for permanent improvements to the roadway that would also protect the natural and cultural resources of the Merced River Canyon as outlined in the Yosemite National Park General Management Plan. Surveys of species indigenous to the area were conducted, and FHWA worked with a National Park Service landscape architect to ensure minimal disturbance to hillsides and riverbanks. The project, completed on October 18, 2000, included realigning and widening the roadway, stabilizing the roadbed, improving drainage, replacing the guard wall and pavement, and restoring the river to its natural state. The stronger, less vulnerable El Portal Road facilitates regional mobility as well as revealing the natural wonder of the Merced River Canyon to visitors from around the world.

Yosemite National Park

A Capital Improvement

In Washington, D.C., security concerns prompted the closing of E Street, NW, south of the White House between 15th and 17th Streets. When city officials pushed to reopen the street to westbound traffic, they were stalled by a lack of resources. Enter the FHWA, which stepped in to assist, facilitate, and coordinate all elements of design, environmental review, and construction of the project. Leading the charge to work together, FHWA skillfully facilitated the efforts of a wide variety of agencies, which ultimately served to bring the project to a successful completion in just one year.

Preserving Popular Parks

America's national parks and other public lands are increasingly popular destinations for Americans and visitors from around the world. This popularity is, unfortunately, leading to overcrowding, congestion, and pollution that threaten the public lands and the enjoyment of visitors. FHWA, the Federal Transit Administration, and the National Park Service are jointly assessing alternative transportation strategies to ease overcrowding by vehicles within nearly a dozen of our most popular national parks and other public lands. The strategies will help protect the sites' cultural, natural, and historical resources and improve the quality of visits to the sites. FHWA provided most of the funding for two initiatives that have already had a major impact on lessening vehicle traffic: the new transit start-up programs in Acadia National Park in Maine and the transit system in Zion National Park in Utah.

Zion National Park, Utah

rstate is I-90 from Seattle to Boston at 3,085 miles; the second longest Interstate is I-80 from San Francisco to Teaneck, New Jersey at 2,907

Creative Wetlands Mitigation

While planning an improvement to Oregon Forest Highway 164, FHWA was faced with a problem: how to offset the 5.18 acres of wetlands that would have to be filled. An innovative solution developed when officials heard about Whalen Island, not far from the site. The island is part of one of the most intact natural estuaries along the Oregon coast, but developers intended to buy the land and build as many as 40 homes. This action would have eliminated significant habitat for diverse wildlife as well as a haven for area residents who enjoy fishing and bird watching. To prevent the development, the Trust for Public Lands secured an option for purchasing Whalen Island and sought partners for its preservation. That's where the FHWA came in.

To replace the wetlands that would be filled for the Highway 164 project, FHWA worked in partnership with the Trust for Public Lands, the Oregon Parks and Recreation Department (PRD), and the Oregon Watershed Enhancement Board to provide funding to preserve the island and its diverse ecosystem. The Oregon PRD now owns the island and opened a park there in February 2001. This creative public/private partnership helped to reduce an adverse impact of the Highway 164 project, which will go to construction in early 2002. The partnership also helps ensure the availability of 93 acres of wetlands for the wildlife that inhabit it and the visitors who treasure it.

Operation Alaskan Road

The Metlakatla Indian Community is located on an island in the southeastern tip of Alaska. Without a road link, the community is often isolated for weeks at a time. To remedy this situation, FHWA is helping to coordinate and fund the formidable challenge of constructing a 14.8-mile road linking the town of Metlakatla with the Southeast Alaska Regional Transportation System of highways and ferries. FHWA is also providing engineering design and construction management expertise in partnership with the military. This joint military construction team faces great challenges during construction, including mountainous terrain and extreme cold. Because they work in environmentally sensitive areas, officials are coordinating closely with the U.S. Fish and Wildlife Service (FWS) to preserve eagle nests and other friendly obstacles they encounter. The future Walden Point Road is a partnership among FHWA, the Department of Defense (DoD), the Alaska Department of Transportation and Public Facilities, the Bureau of Indian Affairs, and the Metlakatla Indian Community. When construction is complete, residents can expect a safe transportation corridor that enhances the mobility and security of the region.

Drilling rock on Annette Island, Alaska, part of the $33 million project to link the remote island to the mainland. Innovative applications included geodesic construction technology developed and pioneered by FHWA.
Photo courtesy of: DoD

miles. ‡ Texas has more Interstate mileage (3,232 miles) than any other state, but New York has mo

Fulfilling Our National Security Role

In times of war and states of emergency, the highway transportation system that carries us to work and play serves a strategic military role by enabling personnel and equipment to move quickly and efficiently around the country. Through the years, FHWA, with cooperation from the state transportation departments, has developed a close working relationship with the DoD to identify and meet transportation needs and ensure military preparedness in war and peace.

Photo courtesy of: DoD

While the 42,800-mile Interstate System is the backbone of our defense highway commitment, it does not include all corridors critical from a military standpoint. DoD worked with FHWA and each state to designate the Strategic Highway Network (STRAHNET), a 61,044-mile system of interconnected highways, including the Interstate System. DoD estimates that much of the equipment tonnage required to support a full-scale mobilization of active and reserve forces would operate over STRAHNET and its connectors to more than 200 important military installations and ports.

How effective is this network? To find out, an FHWA-led joint effort conducted phase one of a pilot study of STRAHNET readiness involving one of five fort-to-port routes in the U.S. Southeast in June 2001. The fort-to-port team traveled the STRAHNET deployment route from Ft. Benning/Ft. Stewart to Savannah in Georgia, to observe its state of readiness and identify needed infrastructure improvements. The team noted pavement capacity, checked on bridges with low sufficiency ratings, and studied two-lane sections of highway between Ft. Benning and I-16. The team concluded that this STRAHNET corridor stands ready to meet national security needs. The second phase of the study will be an audit of the Ft. Bragg and Camp LeJeune access routes in North Carolina. Under the Defense Access Road program, FHWA works with the DoD to study, designate, design, and construct access roads to and within military and defense facilities.

"America's freedom of movement has been challenged. We will meet that challenge."

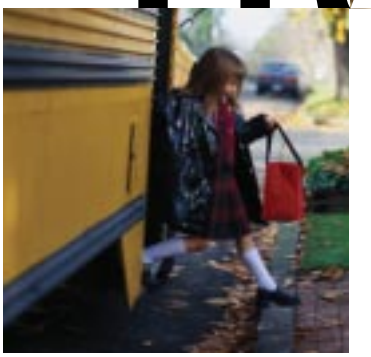
Norman Y. Mineta
Secretary of Transportation
October 1, 2001
(at the Annual Meeting of the American Public Transportation Association)

In the Wake of National Tragedy

Soon after the collapse of the World Trade Center towers in the September 11 terrorist attack, FHWA worked with the New York State Department of Transportation (NYSDOT), the New York City Mayor's office, and the Federal Emergency Management Agency (FEMA) to assess road damage and determine how Federal-aid Emergency Relief funds could be used to help in the recovery effort. Within 24 hours of the attack, FHWA approved NYSDOT's initial request for $25 million in emergency relief funds to help remove debris from the roads and provide temporary transportation. After making available federal-aid highway funds to establish temporary detour routes and repair damaged roads, FHWA continues to work with NYSDOT and local officials to plan projects to repair damaged roads and streets, including a principal arterial (Route 9A). FHWA also took the lead in establishing an Emergency Preparedness and Response Team to identify transportation infrastructure vulnerability and critical transportation system operational issues and is working closely with the American Association of State Highway and Transportation Officials (AASHTO) and the state departments of transportation to identify ways to protect critical highway bridges and tunnels from future terrorist attacks.

Interstate routes (28, compared with 25 in California). ‡ The first and only highway connecting Alaska with the lower 48 states was completed in

PRACTICES



Major improvements to road signs, such as the yellow-green fluorescent colors you see at neighborhood school crossings, are incorporated in the latest addition of the Manual on Uniform Traffic Control Devices Development, *released by FHWA in December 2000.*

Advancing Highway System Design, Construction, Operations, and Maintenance

One of the FHWA's most important roles is working with partners to identify the best practices for designing, constructing, operating, maintaining, and improving the safety of highways. For example, we work with the American Association of State Highway and Transportation Officials (AASHTO), which develops guides, standards, and references that are adopted and used by the public. State departments of transportation (DOTs) and local governments generally use the same publications for improving other roads and streets. In other efforts, we partner with the National Association of County Engineers (NACE) to help public works and transportation managers deliver effective transportation services to their communities. We are also cooperating with other administrations of the U.S. DOT, as well as state, local, and industry officials, to develop regional architectures that ensure computer programs can talk to each other.

1942. ✣ The rural speed limit in Nebraska was 20 mph in 1905; 60 mph in 1941; and as high as 75 mph today. ✣ The first National Road in the Unite

Providing Access to All

Accessibility for all Americans under the 1990 Americans with Disabilities Act remains a primary focus of the FHWA. Sidewalks and trails serve as critical links in the transportation network, providing pedestrian access to commercial districts, schools, businesses, government offices, and recreation areas. FHWA helps to ensure that all sidewalks and trails are designed to meet the needs of the widest possible range of users. One example is the Recreational Trails Program, which provides funds to develop and maintain recreational trails for motorized and nonmotorized recreational trail users. We also produced the landmark *Designing Sidewalks and Trails for Access, Part 2, Best Practices Design Guide*, which is used as a tool for planning, designing, and constructing pedestrian facilities. The Guide also covers legislative requirements and users' needs.

Waging War on Winter

A high-tech snowplow developed by the Minnesota DOT is one example of equipment seen at the Eastern Winter Road Maintenance Symposium and Equipment Expo co-hosted by FHWA. This annual showcase of advances in technology and equipment improves the safety and mobility of the traveling public. It also features educational sessions detailing new ways to battle snow and ice, including automated bridge deck deicing, advanced road weather information systems technology, vehicle-location systems, and smart road technologies. Every other year, the FHWA partners with the American Public Works Association's Colorado Chapter to bring similar information to the western region of the nation.

Nationwide, municipalities and state highway agencies spend at least $2 billion a year to combat snow and ice, and another $4 billion to repair damage done to the infrastructure. This damage can be minimized using advanced technology, such as this high-tech snowplow with a collision warning system for zero visibility conditions.
Photo courtesy of: Minnesota DOT

International Scanning Tours

For the past ten years, the International Technology Exchange Program, directed by the FHWA Office of International Programs, has funded and led scanning teams that identify state-of-the-art procedures and products in highway design, construction, maintenance, and right-of-way acquisition and relocation from around the world. The teams are composed of representatives from both the public and private sectors who look for ideas that could be used on the nation's roads. The teams also showcase innovative practices used in the United States, sharing this technology with the host countries. Highlights for FY 2001 include a recycled materials conference held in Houston; demonstration of a Swiss lighting system for pedestrian crossings; and organization of a context-sensitive design scan follow-up workshop to be held in Seattle in May 2002. FHWA also assisted with follow-up and agenda-setting conferences in Brownsville, Texas, and Ottawa, Canada, for a freight logistics scan related to the North American Free Trade Act (NAFTA).

States (later designated U.S. 40 and then I-70) was based on a Native American path that was widened by a British general fighting the French in

Taking Back the Roads

Our nation's highway transportation system is increasingly indispensable to modern life and commerce. Indeed, in our highly mobile society, the system has almost become a victim of its own success, attracting such high levels of use that congestion and delays are growing problems. Building new roads and adding more transit are part of the solution. But these steps are costly. Fortunately, information technology can enable the existing system to operate closer to peak performance, postponing the need for system expansion. Through the Intelligent Transportation Systems (ITS) program, FHWA and its partners are developing information technology to alert drivers to a wide range of traffic-snarling conditions—from crashes to weather, special events to work zones—and suggest alternate routes. The right information, at the right time, will help Americans take back the roads and go a long way toward keeping traffic moving efficiently.

An example of our operational guidance is the new self-assessment software for government entities. This tool helps professionals evaluate their operations to make improvements in such areas as providing information to travelers, coordinating freeway and arterial operations, and managing traffic around construction work zones.

Transportation Management Centers use real-time data to manage the day-to-day demands of regional traffic.

Another technology-based solution is represented by the Transportation Management Centers. By adjusting signal timing at intersections and ramp meters, the centers can enhance traffic flows during rush hours and special events, alleviate congestion resulting from crashes, improve safety, and improve mass transit capacities in periods of high ridership. More than 40 centers are currently in use, with additional centers in development across the country.

Compatible computer communication protocols are essential to ITS approaches. FHWA is cooperating with other administrations of the U.S. DOT, as well as state, local, and industry officials, to ensure that computer programs can talk to each other, and to provide significant training, guidance, and technical assistance.

511 for Traveler Information

Americans will soon have a powerful new tool at their fingertips for making informed choices about their travel time, mode of travel, and routes. By dialing 511, travelers will have access to information on weather conditions, road closings, traffic congestion, parking availability, the tourism industry, hotel accommodations, and public transit. The FHWA launched 511 in the Cincinnati and Northern Kentucky metropolitan area in June 2001, working in partnership with the Kentucky Transportation Cabinet, the Federal Communications Commission, and other state and federal entities. Plans call for availability in other jurisdictions soon, with the ultimate goal of national implementation.

Applications of ramp metering—traffic signals that control the flow of traffic entering freeways—have proven to increase vehicle throughput by 8% to 22%, while reducing crashes by 15% to 50%. Drivers in the Minneapolis/St. Paul area can attest to these dramatic results. When ramp metering was turned off for six weeks as a test, there was an average 9% reduction in freeway volume, a 22% increase in freeway travel times, a 7% reduction in freeway speed, and a 26% increase in crashes.
Photo courtesy of: Minnesota DOT

1755. ✣ In 1995 alone, Americans took 1 billion long-distance trips that covered 827 billion miles. ✣ The nation's 250 million citizens own 216 millio

ITS Architecture

Computer programs at the heart of ITS must be able to communicate with each other or the value of ITS to traffic operations and safety will be undercut. FHWA is cooperating with other administrations of the U.S. DOT, as well as state, local, and industry officials to develop regional architectures that ensure computer programs can talk to each other. As each area of the country develops its first ITS application, we will help it create a regional architecture within four years. The architecture will be used on all future ITS applications. The FHWA will cooperate with the U.S. DOT to provide training, guidance, and technical assistance.

Among the educational tools that FHWA has produced is a videotape that shows how Advanced Traveler Information Systems (ATIS) can improve mobility in urban areas. The tape depicts the advantages of ATIS in providing a wide array of new choices to drivers on the highway. These choices involve time savings, route changes, and alternative modes of travel. Although these systems won't eliminate congestion, they can give motorists more control of their daily lives.

Clearing Crash Scenes Faster

Commuters often wait for hours at crash scenes while investigators gather information and take exhaustive measurements. On December 3, 2000, a fatal six-vehicle collision on a Chattanooga bridge produced just such a monumental delay. But this investigation was different, taking an innovative approach to analyzing crashes. Working with an FHWA grant to the Tennessee Department of Transportation and Chattanooga police, crash scene investigators used the December 3 collision as a field test of photogrammetry software designed to expedite their work. Photogrammetry measures 2D or 3D objects from photographs or from photo or video data files. It aids mapmakers, architects, civil engineers, and plastic surgeons. The photogrammetry investigation in Chattanooga (using photographs of the scene and one measurement for scale) was completed in less than an hour; the conventional investigation that was also performed that day took three hours. The use of photogrammetry at crash scenes in Oregon, California, Utah, Arizona, and Washington is alleviating congestion while also reducing the risk of secondary collisions resulting from traffic snarled by a crash scene investigation.

Enhanced Transportation Planning

ISTEA and TEA-21 have enabled FHWA to facilitate best practices in planning among state DOTS and metropolitan planning organizations. For example, FHWA and the Florida Division worked with the Florida Department of Transportation to develop the Environmental Transportation Decision-Making (ETDM) process.

With active support from FHWA and the Transportation Research Board (TRB), six states have begun sponsoring their own Safety Conscious Planning Forums, bringing together members of the planning, safety, and motor carrier enforcement community. The Maryland Forum created the state's first intermodal action plan to incorporate safety into the planning program and improve access to crash data.

Consistent with TEA-21's emphasis on system management and operations as a key planning principle, FHWA sponsored workshops and seminars highlighting the need for stronger links between transportation planning and operations. An excellent response can be seen in the San Francisco Metropolitan Transportation Commission's draft 2001 regional transportation plan, which stresses addressing congestion through better management, improved maintenance, and more efficient operation of the existing system.

vehicles. ✢ America's Byways include 72 nationally designated All-American Roads and National Scenic Byways. ✢ Americans spend $424 billion

INTERACTIONS

The safety of pedestrians and bicyclists on the nation's roadways is a continuing concern of transportation officials around the country. In 2000, 4,739 pedestrians and 690 bicyclists lost their lives. These totals fell from 1999 numbers (4,939 pedestrians and 754 bicyclists), but we must do more to make walking and bicycling safer. To increase public awareness, the FHWA has worked with its partners to create safety tools for use at the local, state, and national levels. These include a Pedestrian and Bicycle Safety Resource set, a pedestrian and bicycle crash analysis tool, and Safer Journey, *an award-winning interactive pedestrian safety awareness CD-ROM. FHWA has developed a National Bicyclist Safety Education Curriculum for all ages and levels of cyclists.*

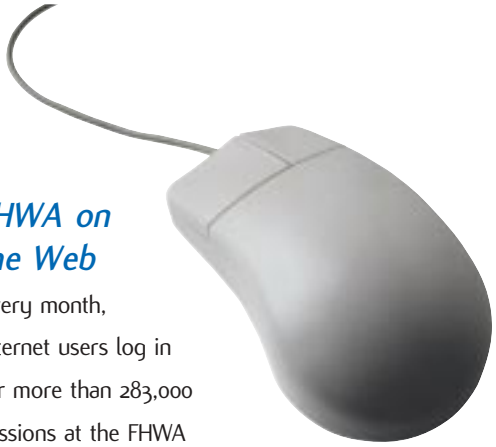
Reaching Out and Listening to Transportation System Users

What good is the greatest and most complex highway transportation system in the world if it doesn't meet the needs of the people who use it? FHWA's public awareness and education campaigns foster citizen involvement and interaction in making the system work as effectively as possible. One example is *A Citizen's Guide to Transportation Decisionmaking*, a booklet created by FHWA and the Federal Transit Administration (FTA) to promote understanding of highway management and the transportation project process, ensuring that citizens can be involved in the transportation decisions that affect their lives.

Through surveys and other initiatives, we also conduct an ongoing dialogue with the American public to help us set goals and determine future areas of focus. We have met with more than 100 groups of Native Americans in the past year alone to discuss transportation issues in and around their lands. We are as near as the telephone in every state, and available on the Web. In challenging situations, we also use our imaginations, as in Alaska where we partnered with the state department of transportation to collect user feedback from rural areas via a call-in radio program. Whatever it takes, we want the voice of America's travelers to be heard.

To celebrate the opening of Arizona's Loop 101 (Pima Freeway), the Phoenix community gathered for dedication festivities on the new road.

on travel away from home within the United States, and this spending generates additional indirect induced sales of $565.3 billion. ✢ The German a



FHWA on the Web

Every month, Internet users log in for more than 283,000 sessions at the FHWA website. Among the site's many features is the *Expertise Locator*, which connects FHWA workers and customers with experts among the staff who can provide solutions to travel-related problems. To help motorists plan their trips around the country, the *National Traffic and Road Closure* page provides links to state transportation departments and other sources of reports on construction zones or other activities that can affect travel routes.

Another innovative destination is *Re: NEPA*, an online public forum for the exchange of knowledge, information, ideas, and best practices concerning FHWA's implementation of the National Environmental Policy Act (NEPA) and related environmental issues. More than 700 people representing industry and governments, as well as private citizens, are using *eDialogue*, an online national forum to improve highway operations. Part of the National Dialogue on Operations, its aim is to help transportation professionals exchange ideas that lead to increased mobility, productivity, and safety.

Web links mentioned above include:

- Expertise Locator
  http://highwayexpertise.fhwa.dot.gov
- National Traffic and Road Closure
  http://wwwcf.fhwa.dot.gov/trafficinfo
- Re: NEPA
  http://nepa.fhwa.dot.gov
- National Dialogue on Operations
  http://www.nawgits.com/opdialog

Educational Programs

FHWA provides highway users with educational programs through partnerships at the federal, state, and local levels. One example is *Keeping the Noise Down*, a plain language citizens' guide developed in 2001, that addresses highway traffic noise, how noise barriers and other mitigation measures work, and how officials decide where to put them. We also provide workshops, as well as printed, CD-ROM-based, and online information on all aspects of transportation safety and awareness.

Education has been a big factor in pursuing safer work zones. FHWA worked with more than a dozen organizations to create National Work Zone Awareness Week, and promoted the concept of smart work zones, featuring traffic detection cameras and a series of changeable message signs in and around work zone areas. Another effort, the Work Zone Mobility and Safety Program, included strategic analysis tools and models for transportation professionals. We also co-sponsored the Work Zone Safety Information Clearinghouse on the Web, providing information and technical assistance about safe and effective work-zone operation.

As part of the 2001 National Work Zone Awareness Week, 868 orange traffic cones stood on the grounds of the Washington Monument as testimony to the workers and travelers killed in 1999 work zone crashes. Other safety-related observances include National Stop on Red Week, Put the Brakes on Fatalities Day, and International Walk to School Day.

Ensuring Civil Rights in Transportation

FHWA, like all federal agencies, is committed to reaching out to traditionally underserved populations by identifying and addressing the effects of our programs, policies, and activities on minority and low-income populations, and by getting people involved in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility. In 2000 and 2001, FHWA and FTA staff conducted more than 50 workshops (one in each state, the District of Columbia and Puerto Rico) on the needs of underserved populations.

The three principles we strive to meet are:

1. *Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects.*
2. *Ensure full and fair participation by all potentially affected communities in the transportation decisionmaking process.*
3. *Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.*

obahn network was a model for the U.S. Interstate highway system. ✣ The first segment of the autobahn opened for traffic in May 1935. ✣ Many

TECHNOLOGIES

PONTIS 2000, a Windows®-based bridge management software tool developed by FHWA, analyzes cost and condition data of bridge components for long-term preservation and improvement.

Developing and Using Technology for Tomorrow's Transportation Systems

FHWA places a very high value on new technologies, materials, and innovations to improve the nation's roadways. Applications of advanced technology to the nation's highways are yielding impressive returns in safety, mobility, productivity, and environmental quality due to our efforts. FHWA invests strategically in research and technology to improve the transportation system.

Our approach emphasizes partnership with a broad range of organizations, including other departments of transportation (DOTs) and federal agencies; state, local, and county governments; and international organizations. We are continually reassessing our highway transportation vision and research niche to better integrate our efforts with others in the field. The goal: to identify, develop, and accelerate the transformation of new ideas into better transportation systems, processes, and services.

In one such partnership, FHWA works closely with the National Institute of Standards and Technology (NIST) in a continuing effort to share knowledge and support research collaboration. Recent joint efforts have included technical symposia, software for alternate bridge construction materials, and highway construction materials testing.

U.S. officials visited Germany to see the autobahn before World War II. ✢ During World War II, General Dwight D. Eisenhower learned firsthand hov

Tomorrow's Road Surfaces

Pavement condition affects wear and tear on vehicles, fuel consumption, travel time, congestion, comfort, and traffic safety. FHWA's focus on pavement smoothness and durability is ongoing. This focus is yielding a new generation of pavements that will serve the nation for decades to come. For example:

- In 2001 the FHWA Pavement Smoothness Initiative put in place specifications for construction in 15 states and worked to improve construction techniques for asphalt and concrete pavements. New equipment helps contractors spot quality-control problems and take corrective action hours after paving is put in place. FHWA is working with several groups to make this equipment more available.
- FHWA aggressively promotes best practices for constructing smooth pavements. The new Superior Performing Asphalt Pavements Systems, or SUPERPAVE, is a mixture-and-design-analysis system that yields more durable and longer-lasting asphalt pavements. HIPERPAV, a Windows®-based computer program, guides the design and construction of concrete pavement, enabling engineers to predict and thereby prevent uncontrolled cracking during the construction phase, hours after a surface has been placed. These two systems helped 40 states achieve their pavement smoothness targets for FY 2000.

- The Concrete Pavement Technology Program is a five-year effort to research improved methods of using concrete pavement in the construction, reconstruction, and repair of federal-aid highways. FHWA and the Innovative Pavement Research Foundation are administering the program with other partners, including state highway agencies and the Transportation Research Board.

Transportation Pooled Fund Program

The Transportation Pooled Fund Program is a partnership by federal and state officials, as well as private organizations and academia, in areas of mutual interest. It enables joint funding of research, planning, and technology innovation activities by government, academia, foundations, and private industry. FHWA contributes directly to some pooled fund studies. We also encourage states to pool their funds to address problems of regional or national interest.

One such Pooled Fund program, the Infrastructure Consortium, represents the interests of state and local highway transportation infrastructure providers in the development and deployment of advanced highway safety technologies. The Consortium is expected to:

- *sponsor and support innovative research in cooperative Intelligent Vehicle Initiative (IVI) services,*
- *represent the interests of all state and local governments, and*
- *promote the deployment of cost-effective, cooperative IVI services.*

Germany's autobahn enhanced that country's troop mobility. After the war, President Eisenhower put these lessons to use by creating the U.S.

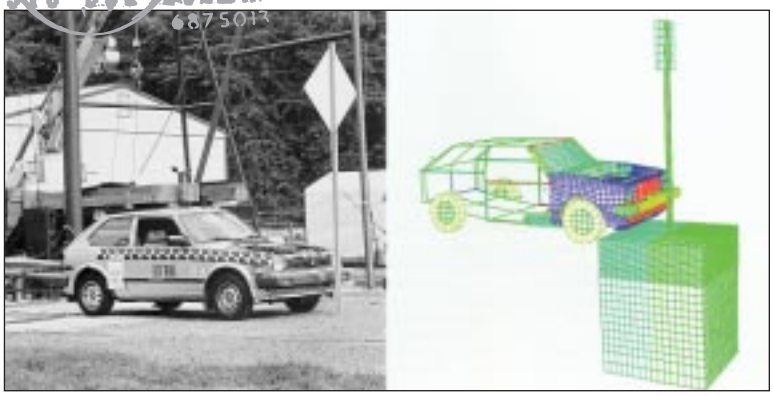
The Power of Information

FHWA's Intelligent Transportation Systems (ITS) program promotes the application of information and communications technologies that are changing the face of transportation. Tomorrow's highways will be safer and more efficient, thanks to ITS innovations. The intermodal freight industry is also being transformed. Real-time information provided via tracking and communication systems enables integrated freight operations across the supply chain. It can help optimize the operational efficiency of highway and rail access to the nation's ports and terminals, enhancing safety and productivity in an environment of growth and increasing congestion.

One ITS initiative—FORETELL—will promote a single point of access for advanced weather system predictions, seamlessly networked across the continent. A primary goal is to reduce winter-related road deaths by at least 15 percent. FORETELL maps will show current and forecasted precipitation, dew points, wind speed and direction, relative humidity, barometric pressure, road pavement temperature, road freeze points, and snow depth at any point on a highway. In the future FORETELL will serve summer highway maintenance crews plus railroad, aeronautical, and waterways needs. It will also assist farmers, emergency management agencies, flood control districts, and others. FORETELL is being developed by a partnership that includes FHWA's Office of Transportation Operations, Canadian agencies, and private entities and is currently being field tested with the cooperation of state DOTs in Iowa, Missouri, and Wisconsin.

Safer Roads Through Better Design

Road safety evaluation software called the Interactive Highway Safety Design Model (IHSDM) marshals available knowledge about safety into a more useful form for highway planners and designers. IHSDM modules estimate the number and severity of crashes on specified roadway segments, evaluate the operating speed consistency along roadways, estimate drivers' speed and path choice along roadways, evaluate the safety impact of intersection design alternatives, run automated checks of compliance with highway design policies, and estimate the operational effects of road designs under current and projected traffic flows. FHWA has been developing IHSDM with an initial focus on two-lane rural roadways. Beta testing of IHSDM modules is in progress, with public release scheduled for late 2002. Preliminary plans call for a multi-lane version in 2006. IHSDM is one of the most significant programs currently in progress within FHWA that concerns the safety and mobility of the nation's traveling public.



Finite element analysis (FEA) is a computer-aided technique for "virtual" testing of structures. With FEA, roadside hardware can be tested repeatedly against large impacting forces to the point of failure, yielding in-depth data at a minimal cost per "crash." In contrast, crashing real vehicles into the same hardware costs in excess of $25,000 per crash and doesn't always yield definitive results. Researchers from FHWA, the National Highway Traffic Safety Administration, and George Washington University are working together to develop tools and techniques for crashworthiness research.

Interstate System. ✣ President Franklin D. Roosevelt suggested in 1939 that the United States build a system of direct interregional highways. ✣ M

Ensuring Better Bridges

The nation's highways include 575,000 bridges of all types, from the majestic Golden Gate Bridge to the common overpass. Some are so striking they inspire poetry, while most simply do their jobs day in and day out. Each, however, is a vital link in the highway network. FHWA has a long history of working with its partners to improve bridge construction, maintenance, technology, and safety.

The Golden Gate Bridge is among the 90 U.S. bridges being retrofitted with seismic isolation systems.

Turning Failure into Success

Early one cold December morning in 2000, a couple crossed the northbound span of Milwaukee's Daniel Webster Hoan Bridge (I-794) and watched in alarm as the bridge began to buckle and crack. They dialed 911 to report that the bridge seemed to be falling. A Milwaukee County sheriff's deputy rushed to the scene and verified that two of the steel beams supporting the bridge had cracked. Officials then closed the bridge, averting a potential catastrophe. After the structure was declared unstable, a controlled demolition collapsed the failed 130-foot section. According to a detailed forensic analysis by the FHWA lab, the Wisconsin Department of Transportation (WisDOT), Lehigh and Northwestern Universities, and a private consulting engineering firm, the bridge failure began in a joint on the center girder of the northbound section. The stresses of extreme cold and traffic contributed to that failure. Research results from the failed Hoan Bridge span are now being communicated by FHWA to state DOTs so they can check similar bridges to prevent failures. A two-day workshop that shared this information was held in September 2001 with more than 100 transportation officials from all over the United States. Through its partnership with FHWA, WisDOT reconstructed the missing span and reopened the bridge to traffic in October 2001.

Earthquake-Resistant Bridges

Seismic isolation technologies, applied on new and existing bridges, can be instrumental in saving lives during earthquakes. In the seismic isolation approach, special bearings actually isolate the bridge superstructure from the movement of the ground. Bearings are placed below the bridge superstructure and above piers or abutments, adding flexibility to the bridge. About 90 U.S. bridges have now been retrofitted with seismic isolation systems, which were developed by FHWA, the California Department of Transportation, and the Highway Innovative Evaluation Center. This technology is now being applied to the Golden Gate Bridge for maximum protection if an earthquake of up to 8.3 in magnitude occurs.

Fighting Scour

The Indian River Inlet Bridge in Delaware Seashore State Park serves as a major route for travelers. The inlet bridge piers have experienced some of the most severe erosion from rushing water, which is known as scour, on record. Although this erosional process does not immediately threaten the stability of the two Indian River Inlet Bridge foundations and the safety and mobility of the region, there are still some concerns that scour in the inlet has not stabilized. While the bridge was protected with large stone armoring in the late 1980s, deeper scour holes have developed near the bridge. Recently, FHWA conducted an expert scour workshop focusing on this bridge. The workshop, involving about 30 professionals from government agencies and private firms, addressed the current and future stability of the bridge and related water issues. It also helped to clarify agency responsibilities in future efforts to deal with scour and bridge stability.

souri, Nebraska, and Pennsylvania have all claimed the distinction of developing the first Interstate roadway. ✣ The Pennsylvania turnpike, opened

PROFESSIONALS

FHWA employees have worked for several years in partnership with Associated General Contractors, the California Department of Transportation, and Operating Engineers Local 3 in a program to educate area high school students about highway construction careers.

Training and Developing the Transportation Community

The most important transportation assets are not made of concrete or steel. They are the professionals who build, operate, and maintain roads and bridges at the federal, state, and local levels, as well as in the private sector and academia. To help develop these professionals, FHWA offers expert consultation and a wide range of courses in all aspects of highway planning, design, construction, operation, and maintenance. Approximately 15,000 individuals, roughly two-thirds from state departments of transportation (DOTs), attended more than 500 training courses in 2000.

FHWA and other federal officials join Transportation Secretary Mineta to celebrate the opening of Utah's I-15 reconstruction project.

FHWA also delivers hands-on technology and training through the Local Technical Assistance Program (LTAP), serving transportation providers in some 38,000 local agencies and tribal governments. A national network of 56 technology transfer centers housed at universities, LTAP makes available a variety of tools for improving transportation operations. The centers provide more than 5,000 training events to 135,000 participants per year. Federal and tribal government employees also receive training in new technology from Federal Lands Highway division offices.

in 1940, was the first limited-access interstate-type highway in the U.S. ‡ With one exception, the Interstate System is owned and operated by the

The Future Workforce

Recent studies show that a significant percentage of federal, state, and local transportation workforces will be eligible to retire in the next 10 years. Studies also show that the transportation workforce is declining due to losses to other industries, public desire to streamline agencies such as state DOTs, and declining recruitment of students for transportation careers. FHWA is cooperating with the American Association of State Highway and Transportation Officials, the Transportation Research Board, and others to define and implement national workforce strategies. Major efforts under way or planned include a transportation-workforce-needs study, an international scan on workforce development and training, and a scan of training and development practices within state DOTs.

FHWA's commitment to its workforce begins even before employment with outreach activities, such as the Dwight David Eisenhower Transportation Fellowship Program (TFP), designed to attract people with diverse skills and talents to careers in transportation. Administered by the FHWA's Universities and Grants Programs, TFP taps into a network of more than 800 colleges and universities to award about 100 fellowships per year. By 2003, $24 million will have been awarded to prospective transportation professionals.

FHWA is committed to increase funding and opportunities for the professional development and training of its current workforce. Employee training investments reached approximately 3.5 percent of the agency's payroll in fiscal year 2001, exceeding the target of 3 percent established earlier. FHWA training and development topics include roadway and bridge design, construction, operations, and maintenance; value engineering and other project and program evaluation tools; policy and planning; highway safety; intelligent transportation systems; environmental protection and enhancement; innovative financing; land acquisition; relocation assistance; and research, development, and technology transfer. In addition, FHWA maintains strong alliances with the American Society of Civil Engineers (ASCE) and the National Society of Professional Engineers (NSPE) to help transportation professionals and students develop new skills and build upon their experience.

The FHWA's professional development program for new employees is a 24-month program consisting of on-the-job training, developmental assignments, and a professional academy. The program is flexible, structured to meet needs in all disciplines and pay grade levels, including mid-career employees who come into the agency at grades above the entry level.

On the Road to Africa

Internationally, FHWA shares U.S. transportation technology and practices through train-the-trainer courses. For example, at a transportation technology transfer conference in Arusha, Tanzania, in May 2001, a train-the-trainer course on work zone traffic control and an instructor development course were offered to delegates from Malawi, Tanzania, and Zimbabwe. The newly certified master trainers will train their colleagues throughout sub-Saharan countries.

tates. ✣ The Woodrow Wilson Memorial Bridge, which carries the Capital Beltway (I-95/I-495) across the Potomac River, is the only segment of

CLOSING

Always Seeking to Move Ahead

In projects and initiatives found in all states and territories, FHWA strives to protect and enhance our highway transportation system performance and, in so doing, make the experience of the traveler better. Sometimes that means providing funds for the reconstruction of an interchange. Or deploying state-of-the-art traffic signals. Other times, it means widening a rural road or developing an urban bike trail.

Our past investment in the National Highway System, including the development of the interstate network, was a significant factor in the nation's growth and prosperity during the last 50 years. We have achieved the goal President Eisenhower stated to Congress in 1955 of unifying America through "individual and commercial movement over a vast system of interconnected highways crisscrossing the country."

Today, we must continue to invest in America's highways in order to achieve our national goals. A significant investment backlog for improvements now exists, based on a recent assessment of the highway transportation system. But funding is only part of the story. The other part is people working together to serve the nation. These people can be found in the state departments of transportation, in other public sector organizations, in business and industry, in the military, in groups of concerned citizens, and in academic institutions around the country. They're all FHWA's partners in an ongoing effort to improve the nation's transportation system.

We at the FHWA are proud of our accomplishments, and honored to be entrusted with the task of preserving, enhancing, and improving the operation of our vital transportation system. In the future we will continue to focus on excelling at our unique national roles and demonstrating our value to the American people.

Working for America

"Transportation that is responsive to the citizens and businesses we serve is vitally important to the quality of life of every American.

Our transportation system can meet these needs by:

- *Ensuring the safety of travelers on our roads—94 percent of all transportation fatalities occur on highways.*
- *Maintaining the mobility and productivity of citizens and freight that is crucial to our nation's economic health.*
- *Protecting national security by providing efficient mobilization of military forces and deployment of disaster response teams in time of emergency."*

Mary E. Peters
Federal Highway Administrator
Washington, D.C.
October 2001

the Interstate System owned by the FHWA. ✣ Its replacement, now under construction, will be owned by Maryland and Virginia. ✣

RESULTS

Measuring Our Performance

Now you know more about what we do. Working with the states and our partners, FHWA strives to improve the safety, mobility, and productivity of the traveling public. We seek to maintain and enhance our human and natural environment, ensure national security, and create excellence in our organization. For each of these goals, we have established a set of measures that allows us to determine our progress annually. Following are highlights of our performance for fiscal years (FY) 2000 and 2001.

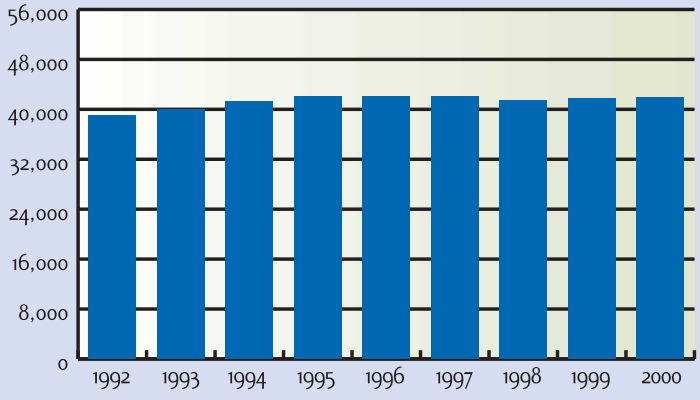
Safety

Safety on our nation's highways is a top priority in all FHWA programs and activities. As illustrated below, more than 41,000 people are killed in traffic crashes on U.S. roads every year, with an estimated 3.2 million injured. We are committed to reducing these numbers, even though vehicle travel is expected to continue to increase and the number of high-risk drivers will grow at a faster rate than overall population growth. We pursue this goal by focusing on preventing the following types of crashes that occur most frequently: run-off-road, speed-related, intersection-related, and pedestrian crashes.

How we've done: While fatalities increased in all crashes from 41,727 in 1999 to 41,821 in 2000, the rate of fatalities, a measure we use for comparison as travel levels change, remains at a historic low. Also, trends in fatalities declined among passenger vehicle occupants by 0.7% and among pedestrians, bicyclists, and other nonoccupants of vehicles by 4.6%.

Program highlights: Previous research shows that, by buckling up, a driver or a passenger reduces his or her risk of dying in a crash by almost half. In FY 2001, FHWA provided $47.4 million in section 157 grants to 36 states, plus the District of Columbia and Puerto Rico, to fund and encourage innovative approaches to increasing seat belt use.

Highway-Related Fatalities
(thousands)

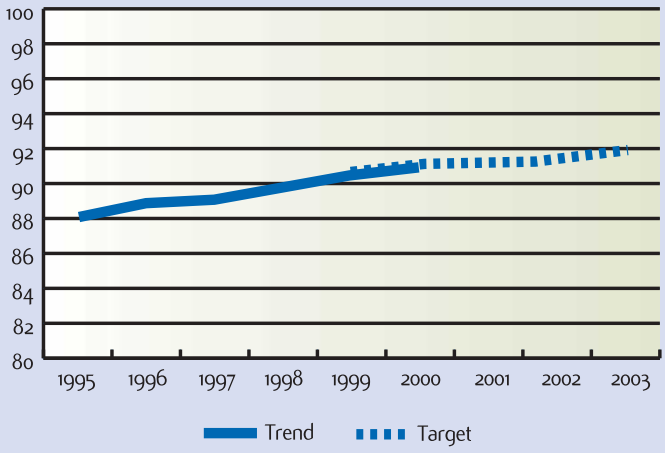


Mobility

Mobility involves connecting more people and vehicles in less time with their work, school, community services, marketplaces, and each other. It also means using our highways to ensure connection between air, transit, rail, and port facilities and terminals. We can enhance mobility by continuing to upgrade the condition of our highways, particularly the National Highway System (NHS), in order to offset the aging of the infrastructure. Indicators for our mobility goal focus on pavement smoothness, bridge condition, and traffic flow. As illustrated in the figure below, pavement condition has steadily improved since 1995. In 2000, 90.9% of travel on the NHS occurred on pavements rated acceptable or better. Working with the states and our partners, we set a target for 2002 at 92.5%. We also want to increase the amount of travel on pavements rated good or better. States continue to reduce the number of bridges rated structurally deficient, reducing the associated bridge deck area at risk, from 31.9% in 1999 to 30.8% in 2000. We have developed adjusted targets to address bridge deficiencies based on daily traffic volume.

We can also optimize traffic flow and enhance transit operations by introducing Intelligent Transportation Systems (ITS) technologies and operating practices such as signal retiming, incident management techniques, and work zone improvements. Although congestion may never be eliminated, real-time (24 hours, 7 days a week) management of the system can substantially improve reliability and users' ability to plan for just-in-time delivery and arrival of people and goods. As the ITS network continues to be implemented, information on transportation reliability will become more readily available to the public.

Pavement Condition (NHS only)
Percent Miles With Acceptable Ride Quality
(Per 100 million vehicle miles traveled)



How we've done: Data for NHS pavement condition, adjusted for vehicle miles traveled, showed that 90.9% of the pavements had acceptable ride quality in 2000. National Bridge Inventory data show that we exceeded our 2000 target of 22.5%, as the percentage of deficient NHS bridges was only 21.5%.

A comprehensive Traveler Perception Survey was conducted in FY 2000 and key baseline data was collected in FY 2001. Of those surveyed, 65% are satisfied with the major highways they travel most often, up 15% since FY 1995; dissatisfaction increased by 6%. Heavy traffic is perceived by 53% to be the most important reason for travel delay. About 20% of the respondents indicated that traffic affected their decisions about where and when to work, and 30% stated that it affected their decision about where they live.

Program highlights: By FY 2001, SUPERPAVE-designed pavements were employed in all states. The asphalt binder technology was fully implemented by 47 states, and the mixture and volumetric procedures were used in 25 states. In FY 2001, FHWA provided $3.5 billion in funding for approximately 3,000 bridge projects through the Highway Bridge Replacement and Rehabilitation Program. Included in this program were 17 major replacement or rehabilitation projects and three seismic retrofit discretionary bridge projects that received almost $88 million in funding.

Productivity

Highways are increasingly congested, a situation that constricts our nation's productivity. In FY 1999, the nation lost an estimated $72 billion in wasted time and fuel consumption. Traffic congestion has grown, in part, because vehicle travel increased by 72% between FY 1980 and FY 1998, while roadway capacity grew only 0.3% per year in the past decade. About 70% of all freight is transported over our highways, which serve as connectors with water, rail, and air facilities. The United States has the world's best long-distance highway network, but capacity problems are on the increase, especially in urban areas. With operating costs for long-haul vehicle operations averaging $40 to $60 per hour, disruptions can be costly to carriers, shippers, and the consumer.

FHWA is committed to slowing the increase in traffic congestion, even as the volume of vehicle travel is expected to continue to increase. In FY 2001, three new measures were developed that will reflect changing travel conditions more comprehensively in urban areas across the country where congestion regularly occurs. The three measures are total congested travel (which includes congestion due to incidents and work zones), expanded peak period (rush hour), and the average number of hours that drivers spend stuck in traffic each year. We seek to limit the increase in congested travel to 0.2% annually (targeted at 33.7% in FY 2002); limit the increase in peak period travel time to 0.4% annually (targeted at 27.2% in FY 2002); and limit the increase in average number of hours per year that drivers are delayed in traffic by 30 minutes annually (targeted at 34 hours in FY 2002). In addition, to address border-crossing delays, we monitor the hours of delay at National Highway System border crossings.

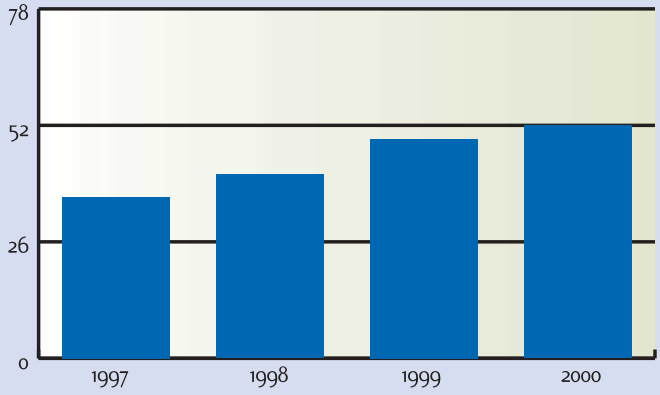
How we've done: In FY 1999, percent of congested travel was 32.6%, peak period travel time was 25.5%, and average annual hours of delay was 31.9%. The results for FY 2000-01 are currently being developed.

Delay measurements were made at 3 border crossings in FY 2000. At Laredo, Texas southbound delays averaged 1.3 minutes and northbound delays averaged 11 minutes per trip. At Otay Mesa, California southbound delays averaged 55 minutes and northbound delays averaged 80 minutes per trip. At Calais, Maine southbound delays averaged 6 minutes and northbound delays averaged 4 minutes per trip. In FY 2002, we expect to measure performance at 5-6 additional border crossings in order to establish a performance baseline.

Program highlights: FHWA assisted with the deployment of Intelligent Transportation Systems (ITS) infrastructure in the top 78 metropolitan areas. As illustrated below, 52 of the top 78 metropolitan areas are at the medium or high level of integrated deployment. Area-specific service plan activities are being implemented in 58 of the 78 largest metro areas with targeted service plan funding provided between FY 1999 and FY 2001. In addition, broader service plan activities are being implemented in many of the top-78 metro areas, and non-top-78 metro areas, with non-targeted service plan and statewide/multi-state service plan funding provided between FY 1999 and FY 2001.

Significant processing delays occured at ports of entry and an increasing volume of traffic led to significant congestion at land-based border crossings. In FY 2001, FHWA and the Federal Motor Carrier Safety Administration (FMCSA) formed the North American Strategy Team (NAST) to address the emerging issues and concerns at our Northern and Southern borders. Under the auspices of the Border Station Partnership Council made up of the U.S. Customs, the U.S. Immigration and Naturalization Service, and the General Services Administration, NAST has initiated the development of *Border Wizard Pro* software to better predict and manage traffic flow at border crossings. FHWA has also developed a freight analysis framework tool to identify emerging bottlenecks in the nation's freight transportation system.

Deployment of ITS Infrastructure
Number of Metropolitan Areas
(At medium or high deployment level)

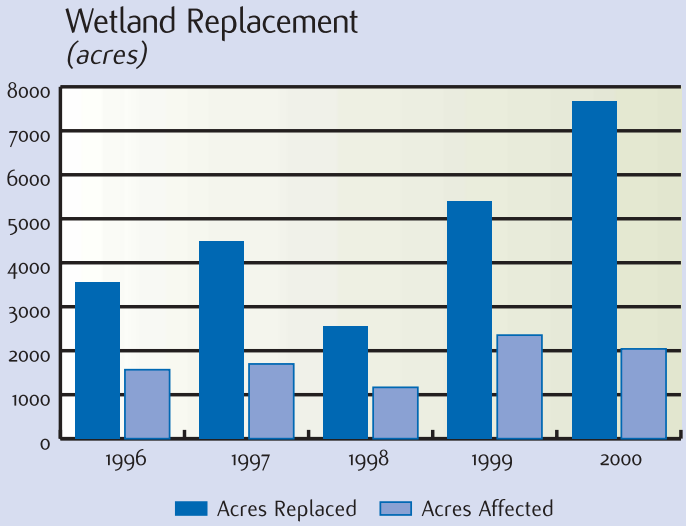


Human and Natural Environment

Transportation profoundly affects where we live and how we get to jobs, services, shopping, and recreation. It is vital for supporting welfare-to-work, mobility for people with low incomes, and accessibility for people with disabilities. We are committed to considering the effects of our programs and projects on minority or low-income populations.

We must also ensure that projects do not adversely impact the natural environment. Working with the U.S. Environmental Protection Agency, one of our goals is to reduce on-road mobile source emissions to 61.1 million tons in 2002. When impacts may be unavoidable, as in the case of some wetland losses, we seek to minimize the impacts. One goal is to replace at least an average of 1.5 acres of wetlands for every acre directly impacted by federal-aid highway projects.

How we've done: We seek to increase the level of public satisfaction with highway systems and projects based on community priorities. A national omnibus telephone survey conducted in FY 2000 revealed that 56% of the public were either satisfied or very satisfied with the transportation system and transportation options in their communities. However, most people also said that transportation could be improved to better meet the needs of their local communities.



In 2000, 100% of high-particulate matter areas, 98% of high-ozone areas, and 96% of high-carbon monoxide areas met their goals toward reducing on-road emissions. As a nation, we have exceeded our annual targeted emission reductions in every year since 1996, making progress toward the ultimate goal of a 20% reduction by 2008. As illustrated in the figure below, nearly four times as many wetland acres were gained in 2000 than were lost due to federal-aid highway projects. Thanks to innovative mitigation strategies, this success ratio goes well beyond the performance goal of 1.5 to 1.

Program highlights: In FY 2000, FHWA awarded 84 grants totaling more than $31 million for Transportation and Community and System Preservation (TCSP) pilot programs. TCSP grants respond to a pressing need to leverage resources to make communities more livable by preserving green space, easing traffic congestion, and employing smart growth strategies. For example, Charlottesville, Virginia, residents can now click on a land-use-and-transportation computer model website and review several scenarios of how the region might look in the future.

National Security

Because our nation's highways link U.S.military bases with rail, seaports, and airports, the National Highway System (NHS) serves as a key component in national defense mobility. When the federal government must respond to a threat around the world or a natural disaster at home, our highways must be ready to support this effort. Working with the U.S. Department of Defense (DoD) and states, we are committed to ensuring defense mobilization by improving the condition of the Strategic Highway Network (STRAHNET) and its connectors. FHWA coordinates emergency preparedness meetings with military and state officials to address the many issues associated with military deployment coordination during national security emergencies. FHWA also coordinates with the Federal Emergency Management Agency (FEMA) and the Office of Emergency Transportation in the planning and implementation of the hurricane evacuation liaison program, in order to provide traffic information during major evacuations.

How we've done: The condition of STRAHNET routes surpassed that of the overall NHS. Pavement smoothness was much better than NHS levels in 2000, with 96.3% of mileage rated acceptable or better. Bridge deficiencies were identical to NHS levels at 21.5%. The condition of bridges with 16 or more feet of clearance showed steady improvement. The percent acceptable increased from 67% in 1994 to 70.8% in 2000.

Program highlights: Without commercial airline service in the wake of the September 11th terrorist hijackings, surface transportation proved to be an important alternative for civilian and military use. The DoD's Military Traffic Management Command faced the challenge of moving a backlog of recruits to basic training sites in Illinois, South Carolina, and Texas. Commercial bus carriers and Amtrak offered their services to move more than 7,000 recruits using the highway and rail transportation system. In addition, FHWA took the lead in key states by inviting all the involved agencies such as the state departments of transportation, state police, and others to coordinate with the military base personnel to develop plans and procedures to ensure prompt and efficient military movements.

Organizational Excellence

We are committed to listening to customers and partners, learning from them, and using their feedback in order to meet their wants and needs. We are also committed to increasing employee job satisfaction, streamlining our recruitment and hiring process, and improving the delivery of programs.

How we've done: When state DOT district engineers were asked in FY 2000 to rate their satisfaction with various dimensions of FHWA's customer service, we scored near the government-wide average using the American Customer Satisfaction Index survey. This survey establishes a baseline against which future improvement efforts will be measured.

Program highlights: The FY 2000 Federal Lands Highway (FLH) Program Administration Survey determines whether FHWA is meeting the needs of the partners and division offices with whom we work. The satisfaction score for field division offices is 64.8, with 72.9 for program strategy and 71.2 for program support. FLH will target the funds allocation number for its field division offices, 54.5, as reflective of an area that needs improvement. The overall FY 2000 satisfaction score for FLH partner agencies is a high 77.9, and an exceptionally high 81.1 for program support.

How We Achieve Results—Our Corporate Management Strategy

At FHWA, we continue to reorganize our work and improve the design of our organization to better achieve our strategic goals. We use the President's Quality Award Criteria for Performance Excellence to guide this improvement effort and periodically assess our own performance. Our Corporate Management Strategy reflects these criteria. FHWA leadership demonstrates our values and sets our vision, mission, and goals. Through strategic planning, customer focus, and the analysis of information, we create our objectives, measures, and plans. We manage our processes and human resources to implement the plans, and we measure results to gauge our progress annually.

FINANCIALS

Financial Highlights

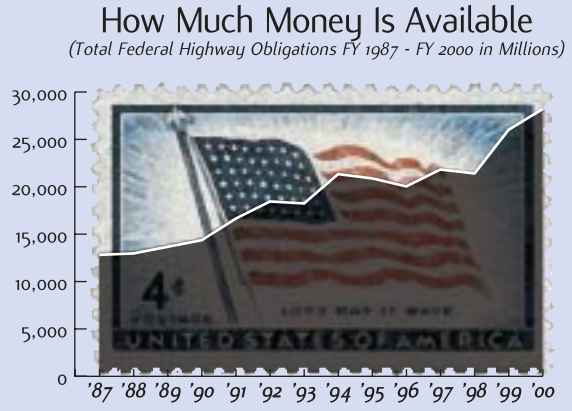
The Federal Highway Trust Fund is the main source of funding for federal-aid highway and transit programs. The funds are generated from excise taxes on gasoline, diesel, and other motor fuels, as well as excise taxes related to the sale and use of commercial trucks. The Federal Highway Trust Fund has two accounts: Highways and Mass Transit. Programs and activities of FHWA are supported from Highway Account revenues.

Where Highway Monies Comes From

In FY 2000, the revenues to the Highway Account of the Federal Highway Trust Fund totaled $31.504 billion. Approximately 85% of the revenues resulted from taxes on gasoline, diesel, and other motor fuels. A portion of the Highway Trust Fund revenue accrues to the Mass Transit account, which is used to finance federal transit programs.

How Much Money Is Available

TEA-21, ISTEA, and prior highway authorization acts provide for the apportionment and allocation of Highway Account revenues to the states acting as contract authorities, less the allowance for administration of the program and metropolitan transportation planning activities. The use of contract authority gives the states advance notice of the size of the Federal-aid Highway program as soon as an authorization is enacted. The total amount of funds obligated for federal highway-related activities increased from $12.819 billion in FY 1987 to $29.596 billion in FY 2000.

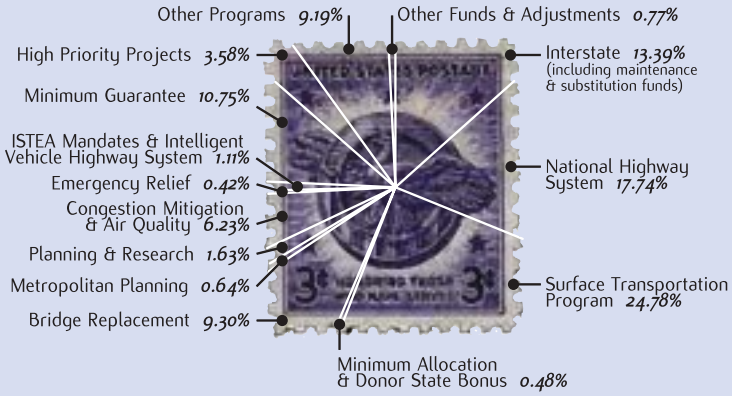


Where Federal Aid Monies Go

FHWA enters into project agreements with states, in advance of appropriations that provide for cash reimbursement. When federal funds are obligated to approved and agreed-to projects, the federal government is committed to pay a state for the federal share of the cost, which is reimbursed to a state after the costs are incurred. Approximately 56% of federal funds were set aside to pay for projects in the Surface Transportation Program, the National Highway System, and Interstate Maintenance programs in FY 2000.

Where Federal Aid Monies Go

(Percentage of Total Obligations)

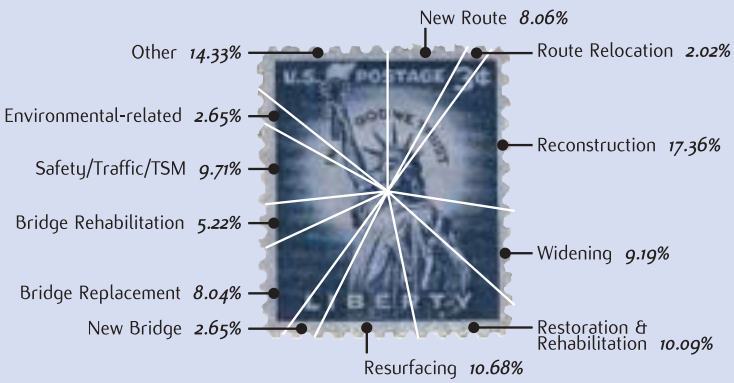


How Highway Monies Are Used

Federal funds are used for a variety of highway improvement purposes, depending on the priority needs and goals in each state. Projects and activities that support the achievement of national goals are given full consideration. In FY 2000, approximately 47% of federal funds were used for system preservation purposes including reconstruction, minor widening, restoration and rehabilitation, and resurfacing. Over the past decade, an increasing percentage of federal funds were used for system enhancement, as opposed to building new capacity or making improvements for system preservation.

How Highway Monies Are Used

(Obligations of Federal Funds by Improvement Type)



Innovative Financing

FHWA uses several innovative methods of project finance, beyond the traditional pay-as-you-go grants, to reduce project costs, expedite project completion, and leverage additional non-federal funds for transportation projects.

- *The Transportation Infrastructure Finance and Innovation Act, (TIFIA), provides federal credit assistance for critical national highway transportation investments such as intermodal facilities, border-crossing infrastructure, highway trade corridors, and regional transit or passenger rail facilities.*

  Current transportation improvement projects funded through the TIFIA program include:

  - *Miami International Center, FL*
  - *Farley Penn Station, NY*
  - *Cooper River Bridge, SC*
  - *Tren Urbano, PR*
  - *Central Texas Turnpike, TX*
  - *Reno Rail Corridor, NV*

- *A State Infrastructure Bank (SIB) is a state or multi-state fund that offers loans and credit enhancements to highways and transit project sponsors. SIBs have been approved in 39 states.*
- *A Grant Anticipation Revenue Vehicle, (GARVEE) is a transportation bond issued by a state or local government and repaid with federal-aid highway funds apportioned or allocated to the state over the life of the bond issue. Five states have approved the use of GARVEE bonds.*

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For a direct link to FHWA Resource Centers and Division Offices
www.fhwa.dot.gov/field.html#fieldsites

Federal Lands Highway Division Offices

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WESTERN
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Vancouver, WA 98661-3801

We invite you to find out more about the Federal Highway Administration. For additional information, please contact the division office located nearest you, one of our four resource centers, or offices in our Washington, D.C., headquarters. You may also visit our website at *www.fhwa.dot.gov*.

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